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EXAMINER

NGUYEN, CHANH DUY

ART UNIT PAPER NUMBER

2675

DATE MAILED: 04/07/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/816,077

Applicant(s)

NISHITANI ET AL.

Examiner

Chanh Nguyen

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,9,12,13 and 15-25 is/are pending in the application.
4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,9,12,13 and 21-25 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Art Unit: 2675

DETAILED ACTION

Response to Amendment

1. The amendment filed on January 15, 2004 has been entered and considered by examiner.

Information Disclosure Statement

2. The references listed on the Information Disclosure Statement field on July 29, 2003 have been considered by examiner; see attached PTO-1449.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 9, 12, 21-22 and 24-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawabata et al (U.S. Patent No. 6,373,533 B1).

Art Unit: 2675

As to claim 1, Kawabata discloses a display device for displaying video data including a detection circuit (5) for detecting a luminance distribution (distribution level of picture level H) indicative of generation frequency of gradation (slope function L) in each of divided regions (S1-S4) (see column 1, lines 64-67, column 3, lines 1-4 and column 4, lines 20-25), each divided region (S1-S4) including a plurality of gradations (tone intensified) based on video data (a) which is inputted (see column 1, lines 63-67). Kawabata teaches a determination circuit (2) for determining a divided region (e.g., S3) of higher generation frequency of gradation than that of other divided regions (S1-S2) based on the luminance distribution (H) (see column 3, lines 20-41). Kawabata teaches a correction circuit (3) for correcting the video data so as to make a luminance characteristic of the divided region of higher generation frequency (S3) more abrupt than a luminance characteristic of the other divided regions (S1, S2 and S4) as the same way as applicant disclosed device in Figure 8 (see Figures 3-4 and 7 of Kawabata).

As to claim 24, this claim differs from claim 1 only in that the limitation "by increasing an output gradation number against an input gradation number of the divided region of higher generation frequency of gradation more than an output gradation number against an input gradation number of other divided regions" is recited instead of the limitation "so as to make a luminance characteristic of the divided region of higher generation frequency more abrupt than a luminance characteristic of the other divided regions" recited in claim 1. This limitation is clearly taught by Kawabata as

Art Unit: 2675

shown in Figures 3-4 and 7 as the same way as applicant disclosed device in Figures 8-9.

As to claim 25, this claim differs from claim 1 only in that the limitation "so as to emphasize contrast of the divided region of higher generation frequency of gradation more than contrast of the other divided regions" is recited instead of the limitation "so as to make a luminance characteristic of the divided region of higher generation" as recited in claim 1. This limitation is analyzed as previously discussed with respect to claim 1 above. The luminance of the image value clearly is the contrast of the image values. For example, Kawabata mentions number of term "contrast" to be improved as results of the operation of the tone correction circuit for video signals (see column 3, lines 39-41).

As to claim 9, Kawabata clearly teaches detection circuit detecting the luminance distribution on every on every one of plural frames of the input video data (e.g., an image frame of a person standing against a dark background as shown in Figure 8).

As to claim 12, it is inherent that the detection circuit (5) of Kawabata includes a detection setting section, a divisional number setting section and a luminance distribution detection section since Kawabata discloses the same was as applicant disclosed device. That is divided regions (S1-S4) based on the luminance distribution (H) as well as accumulating the generation frequency of gradation (L) each divided region (S1-S4).

Art Unit: 2675

As to claims 21-22, the claimed limitations ""increases output gradation number"" recited in claim 21 and "contrast" as recited in claim 22 are taught by Kawabata as previously discussed with respect to independent claims 24 and 25.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata in view of Winkelman (U.S. Patent No. 5,748,802).

As to claim 13, note the discussion of Kawabata above, Kawabata does not mention a gradation coefficient generation section. In same filed of endeavor, Winkelman teaches a gradation coefficient generation section (8) for calculating a correction coefficient (e.g., correction factor k) in each divided region (δi) based on

Art Unit: 2675

luminance distribution detected by the detection circuit (see Figures 9 and 11 and see column 15, lines 31-64 and column 16, lines 46-68). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the gradation coefficient generation section as taught by Winkelman to the correction circuit of Kawabata so that the correction of the image gradation in image originals that work faster, more simply and more precisely than prior art 9 (see column 3, lines 5-10) of Winkelman).

8. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata in view of Tsuda (U.S. Patent No. 6,600,470 B1).

As to claim 23, note the discussion of Kawabata above, Kawabata does not mention a data driver and scan driver. In same view of endeavor, Tsuda teaches a data driver (110) for outputting to the display panel (10) a driving voltage to the corrected video data and a scan driver (100) for outputting to the display panel a scanning voltage for enabling the display panel to display the corrected video data (see column 10, line 58 through column 22, line 45). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the data driver and the scan driver as taught by Tsuda to the display device of Kawabata so as to produce high contrast ratio (see column 9, line 62 through column 10, line 16).

Response to Arguments

9. Applicant's arguments with respect to claims 1, 9, 12, 21-25 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2675

In view of amendment, the reference of Kawabata, Winkelman, and Tsuda have been added for new ground of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603.

If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Steven Saras can be reached at 305-9720.

Art Unit: 2675

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231


or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA, Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


C. Nguyen
April 1, 2004


CHANH NGUYEN
PRIMARY EXAMINER